

CLAIMS

What is claimed is:

1. A system that provides compressed histogram data, comprising:
a compiler histogram interface that obtains histogram data about a table in a
database; and
a dynamic histogram compressor that receives output from the compiler
histogram interface, input regarding a database query and table
information to produce compressed histogram data for use by an
optimizer.
2. The system set forth in claim 1, wherein the optimizer prepares a
search plan based on the compressed histogram data.
3. The system set forth in claim 1, wherein the compressed histogram
data is determined by combining intervals of the histogram data.
4. The system set forth in claim 3, wherein intervals are combined
based at least in part on a column type.
5. The system set forth in claim 3, wherein intervals are combined
based at least in part on whether a range predicate is defined on a column of the
table.

6. The system set forth in claim 3, wherein intervals are combined based at least in part on whether a join predicate is defined on a column of the table.
7. The system set forth in claim 1, wherein the dynamic histogram compressor comprises:
 - a column predicate and type analyzer that produces a compression strategy;
 - and
 - a compression application manager that receives the compression strategy and produces the compressed histogram data.
8. The system set forth in claim 1, wherein the table data comprises column type data about the table.
9. The system set forth in claim 1, wherein the table data comprises data regarding whether a predicate has been defined on a column of the table.
10. The system set forth in claim 1, wherein the table data comprises metadata.
11. A database system, comprising:
 - a plurality of networked computers, each storing at least a portion of a database:

a compiler histogram interface that obtains histogram data about a table in the database; and

a dynamic histogram compressor that receives output from the compiler histogram interface, input regarding a database query and table information to produce compressed histogram data for use by an optimizer.

12. The database system set forth in claim 11, wherein the optimizer prepares a search plan based on the compressed histogram data.

13. The database system set forth in claim 11, wherein the compressed histogram data is determined by combining intervals of the histogram data.

14. The database system set forth in claim 13, wherein intervals are combined based at least in part on a column type.

15. The database system set forth in claim 13, wherein intervals are combined based at least in part on whether a range predicate is defined on a column of the table.

16. The database system set forth in claim 13, wherein intervals are combined based at least in part on whether a join predicate is defined on a column of the table.

17. The database system set forth in claim 11, wherein the dynamic histogram compressor comprises:
- a column predicate and type analyzer that produces a compression strategy;
 - and
 - a compression application manager that receives the compression strategy and produces the compressed histogram data.
18. The database system set forth in claim 11, wherein the table data comprises column type data about the table.
19. The database system set forth in claim 11, wherein the table data comprises data regarding whether a predicate has been defined on a column of the table.
20. The database system set forth in claim 11, wherein the table data comprises metadata.
21. The database system set forth in claim 11, wherein the database is a distributed database.
22. A method of creating a search plan for a database, the method comprising the acts of:

obtaining histogram data about a table in a database, input regarding a
database query and table information;
producing compressed histogram data based on the histogram data, the
input regarding the database query and the table information; and
using the compressed histogram data to produce a search plan to search the
database in response to the query.

23. The method set forth in claim 22, comprising combining intervals of
the histogram data to form the compressed histogram data.

24. The method set forth in claim 22, comprising:
producing a compression strategy based on the table information; and
using the compression strategy to produce the compressed histogram data.

25. A system that provides compressed histogram data, comprising:
means for obtaining histogram data about a table in a database; and
means for receiving output from the compiler histogram interface, input
regarding a database query and table information to produce
compressed histogram data for use by an optimizer.

26. A computer program, comprising:
a machine-readable media;
a compiler histogram interface stored on the machine readable that obtains
histogram data about a table in a database; and

a dynamic histogram compressor stored on the machine readable media that receives output from the compiler histogram interface, input regarding a database query and table information to produce compressed histogram data for use by an optimizer.